

REMARKS

I. Introduction

Claims 1-11 stand rejected. New claims 12-35 have been added. Claims 1-11 have been canceled, and replaced by similar claims 25-35 that place them in proper U.S. claim format. Claims 12-35 are supported by the disclosure. No new matter has been added. Claims 12-35 are currently pending in the present application. In view of the foregoing amendments and the following remarks, it is respectfully submitted that all of the presently pending claims are allowable, and reconsideration of the present application is respectfully requested.

Applicants note with appreciation the acknowledgment of the claim for foreign priority and the indication that all certified copies of the priority documents have been received.

Applicants also take note of the issues raised by the Examiner regarding defects in the previously submitted Information Disclosure Statement. Applicants plan to file a revised Information Disclosure Statement correcting the identified defects forthwith.

II. Claim Objections

Claims 1 to 11 have been replaced by analogous claims 25-35 to place them in proper U.S. claim format.

III. Rejection of Claims 1 to 11 Under 35 U.S.C. § 103(a)

Claims 1 to 11 were rejected under 35 U.S.C. § 103(a) as unpatentable over the combination of U.S. Patent No. 5,802,290 ("Casselman"), U.S. Patent No. 5,889,982 ("Rogers"), and U.S. Pat. No. 4,682,284 ("Schrofer"). Applicantss respectfully traverse this rejection. Claims 1-11 have been replaced by similar claims 25-35. It is respectfully submitted that the proposed combination of Casselman, Rogers, and Schrofer does not render unpatentable claims 25-35 at least for the following reasons.

To establish a prima facie case of obviousness, the Office Action must demonstrate three criteria: (1) there must be some suggestion or motivation to one of ordinary skill in the art to modify a reference or to combine reference teachings; (2) there must be a reasonable expectation of success; and (3) the prior art

reference (or references when combined) must teach or suggest each and every limitation in the claim under examination. In re Vaeck, 947 F.2d 488 (Fed. Cir. 1991).

Claim 25 recites a system for the run-time reconfiguration of a programmable unit, the programmable unit including a plurality of reconfigurable function cells in a multi-dimensional arrangement. The claimed system includes

a primary logic unit in communication with at least one of the plurality of reconfigurable function cells, the primary logic unit configured to detect an event and to detect a state of the at least one of the plurality of reconfigurable function cells.

Claim 25 further recites:

a FIFO memory coupled to the primary logic unit configured to store a plurality of configuration data associated with the plurality of reconfigurable function cells, the plurality of configuration data including the first configuration data, the first configuration data stored in the FIFO memory if the selected one of the plurality of reconfigurable function cells is not in a reconfiguration state, and the primary logic unit configured to reconfigure the selected one of the plurality of reconfigurable function cells if the selected one of the plurality of reconfigurable function cells is in a reconfigurable state

The Examiner alleges that Casselman discloses the recited plurality of reconfigurable function cells to be configured by configuration data that is stored in a first memory. The Examiner further alleges that Schrofer discloses the recited FIFO memory. However, neither Schrofer, nor Rogers, nor Casselman, nor their combination teach or suggest that configuration data from multiple functional units should be stored in a common FIFO memory if the selected reconfigurable function cell is not in a reconfiguration state, while reconfiguring the selected reconfigurable function cell if it is in the reconfigurable state. The claim language “*a plurality of configuration data associated with the plurality of reconfigurable function cells*” implies that reconfiguration data from multiple cells is stored on the FIFO. This common FIFO storage will have the practical effect of having reconfiguration of some cells wait on the completion of work at other cells (because the data is stored in a common FIFO). Thus, the reconfiguration of a cell will sometimes have to wait for the completion of processing at other cells, even though the cell has completed its own processing and is ready for reconfiguration. This type of waiting is not taught by the cited references. This use of a FIFO for configuration requests for multiple cells prevents deadlock situations from arising in the reconfigurable multiprocessor.

Thus, because none of the cited references teach or suggest the recited limitations, and in particular the notion of having reconfiguration data from multiple cells stored on a common FIFO, the suggested combination of Casselman, Rogers, and Schrofer does not teach or suggest each and every limitation in claim 25, and thus claim 25 should not be obvious over the cited references.

Furthermore, the Examiner alleges that it would have been obvious to include Schrofer's FIFO memory in the invention of Casselman. The mere fact that references can be combined or modified does not render the resultant combination obvious unless the prior art also suggests the desirability of the combination. In re Mills, 916 F.2d 680 (Fed. Cir. 1990). The Examiner states that the desirability of the combination is to be able to queue up configuration data to a configurable cell even when the cell is not in a configurable state.

However, Applicants respectfully submit that none of the cited references teaches or suggests the notion of using a common FIFO queue for multiple functional units in a multiprocessor as recited in Applicants' claim 25, or of combining a FIFO queue with some other elements to achieve this result. Simply desiring to queue up requests for a processor is not a motivation to make the combination proposed by the Examiner in a way that results in Applicants' claim 25, where the queue is shared by multiple cells. In Applicants' claimed system, a purpose of the shared queue is to cause other cells to wait for the completion of processing at a given cell. This is most conveniently achieved using the claimed shared FIFO queue. Thus, none of the cited references teach or suggest the Examiner's proposed combination.

Thus, for at least the reasons given above, the suggested combination of Casselman, Rogers, and Schrofer does not render unpatentable claim 1.

As for claims 26 to 35, which depend from claim 25 and therefore include all of the limitations of claim 25, it is respectfully submitted that the combination of Casselman, Rogers, and Schrofer does not render unpatentable claims 26 to 35 for at least the same reasons given above in support of the patentability of claim 25.

IV. New Claims 12 to 24

New claims 12 to 24 have been added herein. It is respectfully submitted that new claims 12 to 24 do not add any new matter and are fully

supported by the present application, including the Specification. Since claims 12 to 24 include, inter alia, subject matter similar to that recited in claim 25, it is respectfully submitted that claims 12 to 24 are patentable over the references relied upon for at least the same reasons given above in support of the patentability of claim 25.

V. Conclusion

In light of the foregoing, it is respectfully submitted that all pending claims 12 to 35 are in condition for allowance. Prompt reconsideration and allowance of the present application are therefore earnestly solicited.

Respectfully submitted,

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